

EUROPEAN ENERGY SECURITY: WRESTLING THE RUSSIAN BEAR FOR CASPIAN NATURAL GAS

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USAWC PROGRAM RESEARCH PAPER

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Topic Approved by
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ABSTRACT

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Natural gas, and its accessibility, is a growing component of national security. In its March 2006 Green Paper on Energy Security, the European Commission committed itself to promoting energy source diversification. Nevertheless, 25 percent of the EU's natural gas comes from Russia, a figure that is estimated to grow to over 50 percent by 2030 as EU domestic production continues to decline.

Unfortunately for European energy security, Russia has shown itself increasingly willing to flex its energy muscle; strong-arming both buyers and sellers on pricing and interrupting deliveries to send political messages. This paper examines the EU's growing dependency on natural gas and Russia's reliability as a natural gas supplier in view of EU strategic energy security needs. The study then examines the Caspian region as a diversifying source for EU natural gas needs. Finally, based on the findings, policy suggestions are given to improve the EU's energy security framework.

EUROPEAN ENERGY SECURITY: WRESTLING THE RUSSIAN BEAR FOR CASPIAN NATURAL GAS

Natural gas plays an increasingly important role in Europe's energy needs. Because natural gas is the fuel of choice for residential heating and cooking, and increasingly for power generation, Europe's natural gas needs are predicted to double over the next 25 years, at the same time that domestic production declines. As a result of this gap, European Union (EU) dependence on natural gas imports could rise from its current level of 50% to over 80% by 2030, with the majority of those imports coming from Russia.¹

Unfortunately, Russia has shown itself increasingly willing to use energy as a tool of foreign policy, posing a threat to EU energy security. Meanwhile, the fourth largest proven natural gas reserves in the world sit in the Caspian region – including Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan – effectively locked away from a natural market in western Europe by Russia's stranglehold over Europe's natural gas pipeline system. Russia benefits both from avoiding competition in sales (monopoly power), but also in being the only available buyer for Caspian gas (monopsony power).

National security dictates the need for an effective EU energy security policy that addresses both increased access to sources and transportation of natural gas. Access to Caspian natural gas reserves will not solve Europe's energy security problems, but it represents the best first step to a more secure energy picture. In addition, the EU must take concrete steps now to avoid further dependence, including: supporting the

construction of natural gas pipelines, such as the Turkish-Greek-Italian Interconnector (TGI) or Nabucco; linking the Caspian with western Europe; and avoiding Russian efforts to further increase EU member state reliance on Russian natural gas.

EU and Natural Gas: A Growing Dependency

Energy comes in five broad types of fuels – oil, natural gas, nuclear, coal, and renewable energy sources (RES).² In the EU, oil has been and continues to be the dominant fuel, providing 43% of energy consumption needs, while natural gas is number two, at 24% of energy consumption.³ However, by 2030, it is estimated that natural gas will grow to a third of the EU's energy consumption, an impressive 30 trillion cubic feet (tcf) annually.⁴ This growth will come largely at the expense of declining coal usage, but will also result from projected declines in the use of nuclear power and oil consumption.⁵ Unfortunately for the EU, domestic sources of natural gas are declining at the same time that demand is increasing; by 2030 it is estimated that natural gas production in the EU-25 will decline to just under 150 billion cubic meters (bcm) per year, down from a current high of 230 bcm.⁶

The most significant reason for an increase in natural gas use is environmental: power generation is the main driver of energy demand in the EU and the largest source of its greenhouse gas emissions. In light of growing concerns regarding global warming, the EU has committed itself to an aggressive 20% reduction of greenhouse gas emissions by 2020 (as compared to 1990 levels.)⁷ Natural gas, when burned, has lower emission levels per unit of energy than either oil or coal, resulting in less local pollution (sulfur and nitrous oxides) as well as less global-warming-inducing carbon dioxide.⁸

Nuclear, while likewise “clean” in comparison with oil or coal, is too politically sensitive for much of the EU, with only 1 in 10 Europeans favoring its expansion.⁹ Although some discussion is taking place on resuming nuclear power plant construction in the EU, the political dimensions of this issue will require years to play out, making it a medium-term solution at best.¹⁰

Economics play a role as well. Natural gas power plants have relatively low entry costs. A new 1000-MW combined-cycle natural gas turbine costs approximately \$500 million to construct, about a quarter the price of a nuclear power plant of the same capacity, and a third the price of a pulverized coal plant. Additionally, a new combined-cycle power plant can be built in under 2 years, compared to 4 to 5 years for a new nuclear or coal-fueled facility.¹¹ RES, in nearly all forms, remains relatively expensive compared to fossil fuels both in up-front capital costs and kilowatt/hour costs, limiting acceptance.¹² For this reason, as well as technological barriers that still must be overcome, it is difficult to see how RES growth will be able to keep up with the increase in energy demand in the EU.

Finally, natural gas has a unique market structure, which paradoxically limits its expansion and yet, once established, tends to buttress or even expand its market position. Unlike oil, whose relative ease of transport (whether pipeline, ship, rail or even tanker truck) allows for a global market, natural gas is almost entirely delivered via pipeline. In its normal state, natural gas contains considerably less energy by volume than any other form of fossil fuel, making it less cost-effective to transport. Only pressured pipelines provide a sufficiently low-cost solution to make the product

economically viable. While natural gas can be compressed into liquefied natural gas (LNG) or even compressed natural gas (CNG), the costs and technological requirements involved in liquefaction or compression, pressurized transport, and regasification, have left pipelines the preferred form of natural gas delivery.¹³

Pipelines of any sort, however, are a tremendously complex financial operation. Concerns related to national sovereignty, bilateral relations, fluctuating energy prices and demand, and environmental issues all make pricing the risk of a pipeline project difficult, with a commensurate financing cost. Generally speaking, pipelines require 20 to 30 years to recoup their initial investment, and may not exceed 4000 km in length in order to be assured of profitability. To ameliorate some of the market risk involved, and in order to secure financing at favorable rates, suppliers usually insist on long-term contracts – 15-20 years on average – from buyers.¹⁴

The end result is a tight bilateral relationship between a supplier and a consumer, who are tied together by a mutual need to work together to keep gas flowing in order to recoup the initial cost of building the end-to-end transport system. Unlike oil, gas cannot be easily rerouted if its transit route is interrupted. If any part of a pipeline is closed, it is almost certain that all deliveries and even the wellhead will be shut down as well, completely interrupting the flow of energy.

By the EU's own estimates its electricity needs are growing at 1.5% annually, requiring new investment in power generation to the tune of 900 billion euro over the next 25 years.¹⁵ In the face of this demand, and under competing pressures to decrease greenhouse gas emissions while only selectively increasing nuclear power, it

falls to natural gas to fill the gap. In one respect the EU is lucky; 80% of the world's proven natural gas reserves fall within conceivable pipeline distance.¹⁶ On the other hand, the EU has, through choice and happenstance, made most of its binding natural gas ties with a supplier that has recently begun to connect its international political agenda with its tremendous influence over Europe's natural gas supply: Russia. As the EU's demand for energy leads it further down the path to natural gas, it finds most, if not all, roads lead to Moscow.

The EU and Russia: Power Politics

In 2005, the EU imported 57% of its natural gas needs, a figure that the EU estimates could rise to 84% by 2030.¹⁷ Of current natural gas imports, the European Commission's Directorate-General for Energy and Transport estimates that 41% comes from a single source – Russia.¹⁸ There is a certain logic to this arrangement; Russia's gas is plentiful and close. Russia has the world's largest proven natural gas reserves, estimated at just under 50 trillion cubic meters, or 27.5% of the world's total, most of which is close enough to the EU that it can be transported via Russia's existing pipeline infrastructure.¹⁹ In 2000, Russia exported a total 163 million tons of oil equivalent (mtoe) of natural gas, of which 36% went to the EU.²⁰ Many EU member states are, in fact, almost entirely dependent on Russian gas imports for their domestic consumption, including: Austria at 63%, Bulgaria at 94%, Czech Republic at 82%, Finland at 100%, Germany at 44%, Greece at 92%, Poland at 60%, and Slovakia at 100%.²¹

This dependency is not entirely one-way. The energy sector is an important component of the Russian economy, contributing nearly a quarter of the Russian annual

GDP. 45% of all Russian energy exports (when oil is included) are destined for the EU.²² Russia's need to access EU markets is particularly strong in the natural gas market, as it has no other immediately available destinations unless it carries through on its on-again, off-again threats to build pipelines to Asia, which would take years to bring to fruition.²³ Too much should not be made of this mutual dependency, however. While Russia would clearly suffer financial discomfort by lack of access to the EU market, the hardship to Russia would pale in comparison to the economic damage the EU would suffer as a result of a lack of access to Russian energy supplies.

When discussing Russian natural gas there is only one name: Gazprom. There is virtually no aspect of natural gas in Russia – development, production, or transport – in which Gazprom does not have the primary role. With a total capitalization in excess of \$240 billion, it is the largest company in Russia, and the fifth largest company in the world.²⁴ Although foreign shareholding is allowed, 50.01 per cent of all shares are held by the Russian Federation, making it essentially a state-owned and operated company.²⁵ In a nation suffering from falling life expectancies and growing criminalism, Gazprom has become a national hero of sorts – a bright spot of Russian success in the finest Communist mold of gigantism. The Soviet-era comparison doesn't end there; Gazprom engages in the type of corporate paternalism that characterized the heyday of Communist rule and even bills itself as the "Pride of the Nation."²⁶

Unfortunately, Gazprom is not an independent business operation by western European standards – nearly every member of the board of directors is connected to

the Russian government and it is often rumored that Russian Federation President Putin himself intends to become Gazprom's head when he leaves office in 2008. Certainly Gazprom decisions are made in secrecy with little stockholder input, mostly originating from a small coterie of individuals around President Putin.²⁷

In addition to its murky management structure, Gazprom can count on full Russian government support in achieving its business goals. The most egregious example of this is the raising of "environmental" concerns by the Russian government over Royal Dutch Shell's investment in the Sakhalin oil and gas fields, which forced Shell to sell a controlling interest to Gazprom on extremely favorable terms or face a complete shut-down of a project only months away from completion.²⁸

On the international side, Gazprom has used its total control of all Russian pipelines and gas to punish countries that have displeased the Kremlin. In January 2006, , Gazprom turned off natural gas supplies to Ukraine in what was billed as a "pricing dispute," but was also clearly a warning to Ukraine and other countries about adopting too pro-Western of a stance. After the election of pro-Western Viktor Yushchenko over his Kremlin-backed opponent, Gazprom announced that it was raising Ukrainian gas prices fivefold, in spite of a contract stipulation good through 2009 that "the rate shall not be revised by the parties."²⁹ The dispute lasted three days, and as 80% of the EU's natural gas passes through Ukraine,³⁰ most EU utilities reported a 25-30% drop in supply.³¹ The dispute ended only when Ukraine agreed to a doubling in price and to allow RosUkrEnergo – a Gazprom subsidiary – to become Ukraine's exclusive provider of natural gas from Turkmenistan.³²

This may have been the first instance in which the EU was directly affected by Russia's control of gas supplies and transit, but it is not the only example of Gazprom flexing its gas supply and transit muscle. Russia has threatened energy supplies to neighboring countries no fewer than six times in the last three years, most recently when it came within hours of shutting down natural gas supplies to Belarus in early 2006.³³ This crisis was widely viewed as a message for Belarusian president Lukashenko, who has not been as receptive to Russian calls for greater "integration" between the two countries as the Kremlin would prefer.³⁴

While Russia has been a stable energy supplier to western European countries over the last 10 years, standard investment advice should be heeded here: past performance is no guarantee of future returns. The EU's growing need for natural gas from a nation where the lines between business and government are blurry at the best of times is problematic. Unless the EU takes action soon, it risks becoming a hostage to the same energy "diplomacy" that Russia has been practicing on its smaller neighbors.

Energy Security: What is it?

Given the vital role that energy plays in a modern society there is remarkably little unanimity on what defines "energy security." While national leaders and military strategists clearly recognize the national security implications of energy supplies, and there are no lack of articles making suggestions for energy security policy, energy security itself is treated as if the concept is so well understood that it needs no further description.³⁵

In 2006, in the wake of Russia's cut-off of natural gas to Ukraine and Moldova,³⁶ the European Commission (EC) issued a Green Paper entitled "A European Strategy for Sustainable, Competitive and Secure Energy." This paper identifies weaknesses in EU internal energy policy, and calls for a coherent external energy policy that includes diversification of supply, yet never provides a precise definition of energy security.

Part of the problem is that Western leaders tend to view energy extraction, transport and sale as free market issues rather than a proper topics for security studies.³⁷ In 1999, Neil MacFarlane observed that "the traditional focus of security studies has been how states (and groups of states) address external military threats."³⁸ To demonstrate how little this thinking has advanced, just this year Friedemann Muller pointed out that in "continental European tradition energy policy is considered part of economic policy," and that only recently has it become clear to political leaders that energy markets "are prone to crisis-like development in certain regions, threatening security."³⁹

Despite these historical positions, the EU must accept the necessity of using its political and economic influence to prevent or ameliorate threats to its imported natural gas supply; the market alone will not address energy security concerns. If MacFarlane is correct in defining security as related to the "presence or absence of threats,"⁴⁰ then the EU must begin to examine both the implicit and explicit threats posed by its dependency on imported Russian gas. Jonathan Stern provides a useful definition of the risks associated with import dependence, namely source dependence, transit dependence, and facility dependence.⁴¹ Facility dependence is largely a technical

issue, but Stern's first two risks bear restating in security terms: countries that import natural gas must diversify their sources of imported natural gas, as well as diversifying transit routes along which the energy travels from those regions, in order to minimize the risk of disruption to those imports.

These definitions, combined with the assumption that states must actively take a role in providing for energy security for their populations, provide a framework for viewing energy security: an energy importing country is at risk of disruption of those energy imports if it is overly dependent on a single source of supply or transit, and if there is the presence of a threat. Through this lens it becomes clear that the EU, with its current and projected reliance on Russian natural gas and Russia's willingness to use its energy supplies to coerce behavior from those in its supply chain, is facing an energy security problem. It must find a way to diversify both its source of supply and its transit routes for natural gas in order to mitigate the Russian threat.

Natural Gas in the Caspian: Energy In Search of a Market

The Caspian Sea region, including Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan, is a natural alternative source of natural gas for Western Europe. These four nations already have 6.6 tcm of proven reserves, the fourth largest reserves worldwide behind only Russia, Iran, and Qatar.⁴²

Currently, Uzbekistan is the largest producer of natural gas (63 bcm), followed closely by Turkmenistan (58 bcm), but Kazakhstan and Azerbaijan have begun to develop significant amounts of natural gas with an eye towards exports. In 2005, these

four countries produced a total of 147 bcm for export and domestic consumption,⁴³ but by 2015 the region could be exporting as much as 200 bcm annually, almost double current export volumes.⁴⁴

Unfortunately, there is currently no route to market for Caspian natural gas that does not go through the Gazprom's natural gas pipeline system. Infrastructural development in the Caspian region is minimal, and what is in place is largely a vestige of the Soviet era, designed to feed into refineries and distribution centers in European Russia. As a result, the only major gas pipeline out of the region is the Central Asia Center pipeline, which feeds directly into the Gazprom pipeline network. Consequently, Gazprom is in the enviable position of exercising monopsonistic power over Caspian natural gas, buying it at extremely low prices for its own domestic market needs, while selling its own, more expensive natural gas in Europe for a tremendous profit.

Gazprom's virtual monopoly position on natural gas sales to the EU and near absolute monopsony position on purchases from the Caspian region is so profound that it is difficult to even determine how much rent it extracts from its market control. When Gazprom discusses the "market" price of natural gas in Europe (roughly \$230 per thousand cubic meters), in fact they are discussing the Gazprom price – in western Europe gas costs whatever Gazprom decides to charge.⁴⁵

Southern Route Pipelines: Breaking the Russian Hold

Through a clever combination of blunt power and skilful diplomacy, Russia remains the dominant player in the Caspian region, bottling the Caspian's energy potential for its own use and keeping the gas prices in the region artificially low by

preventing competition. Even so, there may be a few cracks in the dam of Gazprom control which the EU could exploit to change this situation.

The first break in Russian control of Caspian natural gas is the Baku-Tbilisi-Erzurum (BTE) pipeline, which will soon connect Azerbaijan's Shah Deniz gas field with the Turkish national gas grid. Also known as the South Caucasus Pipeline, the BTE will carry 7 bcm of gas annually in its first stage, to be upgraded to 20 bcm by 2010. This project was almost an afterthought of the U.S.-led Baku-Tbilisi-Ceyhan oil pipeline, and will follow the same established right-of-way. The existence of this pipeline does not unduly worry Russia as the Turkish market is already over-served and does not need additional Azeri gas, limiting contracted amounts between the two countries to token amounts. Gazprom is already the dominant natural gas supplier in Turkey, providing the country with 64% of its natural gas needs, and effectively controlling the Turkish gas market.⁴⁶

The BTE is not the only pipeline project underway, however. Turkey, Greece and Italy have become partners in connecting the national gas grids of their three countries through the construction of a Turkish-Greek-Italian Natural Gas Interconnector (TGI), which could begin operation as soon as 2011. This pipeline, running under the Bosphorus, across Greece, and then under the Aegean Ocean, is projected to carry a relatively minor 8 bcm annually, but has captured Moscow's full attention. The Greeks and Italians have indicated their preference to contract directly with Azerbaijan for gas to fill this pipeline.

If this deal is finalized, for the first time the Russian hold on Caspian gas reserves will be broken and Caspian gas could be sold directly to western Europe, competing head-to-head with Gazprom contracts.⁴⁷ To forestall this outcome, the Russians have brought serious political firepower to bear, especially on Greece. Since March 2006, Athens has received two Russian Presidential visits as well as two visits from Gazprom CEO Alexei Miller. The purpose of these visits has been to convince the Greeks to contract for Russian gas instead of Azeri gas to use in the TGI.⁴⁸ Greece, which receives 85% of its natural gas from Russia (from a contract that expires in 2016) now finds itself in the cross-hairs of Gazprom's energy "diplomacy."

The Russians are taking the TGI seriously, not because it presents a serious threat to Gazprom's control of the gas market in western Europe – at 8 bcm annually it would hardly provide a dent in Europe's natural gas needs – but because of the precedent it creates. Waiting in the wings is a serious contender to wrest away Caspian natural gas from Russian control: the Nabucco pipeline. This Austrian-led project is large enough to provide a true alternative to Gazprom for energy-hungry European countries. Running from Turkey to Austria, Nabucco would be capable of transporting 30 bcm annually by 2020, accommodating natural gas exports from all four Caspian region gas producers. More importantly, Nabucco could provide the entire gas needs for Hungary, Bulgaria, and Romania (all partner countries in the project) with only half of its capacity, putting the rest into the western European supply system through Austria.⁴⁹

Towards a Better EU Energy Security Position

No dominant market actor ever gracefully relinquishes its pre-eminent position, and Gazprom is no exception. To counter the Nabucco project Russia has skillfully split the EU with a counterproposal: the Blue Stream II project. This Russian-constructed and operated pipeline would, not coincidentally, run almost exactly along the route staked out for the Nabucco. At the same time, Russia has launched a diplomatic offensive throughout Europe, casting doubts on the ability of the Caspian region to provide required amounts of natural gas in a timely fashion. Although the Nabucco is ostensibly already an EU-approved project, Russia has managed to gain split-away Hungarian support for the Blue Stream II project, setting the stage for a footrace to see which of the two competing lines can be the first to gain enough financial backing to eclipse the other.⁵⁰

Additionally, Gazprom has signed an agreement directly with Germany (the EU's single largest consumer of natural gas) to build yet another natural gas pipeline, the North European Gas Pipeline (NEGL), which would bypass Ukraine and bring gas directly to Germany. In addition to avoiding future disputes with Ukraine, Russia is undoubtedly calculating that it can undercut market support for financing the Nabucco project if Gazprom can lock up Germany's gas market in a long-term gas arrangement via the NEGL.

All of these moves are designed to lock competitors out of the lucrative EU market, lock in Russian control over Caspian gas reserves, and increase EU member-state reliance on Russian gas for the future. There are no easy solutions for diversifying

natural gas supply to the EU and there are certainly political and economic risks involved in directly opposing Russian control of natural gas given the EU's current level of reliance on Russian gas. Nevertheless the EU should look to the U.S.'s successful efforts to assist the design and construction of the Baku-T'bilisi-Ceyhan (BTC) oil pipeline, which broke the Russian Black Sea chokehold on oil, and which demonstrates that with sufficient political will, a positive outcome can be achieved.⁵¹

To date the EU's key international tool of energy security has been the 1994 Energy Charter Treaty, which entered into legal force in 1998. The treaty was envisioned as a method of promoting rule of law in energy markets (or ensuring a "commonly accepted foundation was established for developing energy cooperation among the states of Eurasia," as the Charter's website puts it) to expand diversity of supply. The Charter attempts to provide a mechanism to regularize interactions between foreign investors and host countries, to promote international transit of energy, and to provide a dispute resolution mechanism.⁵²

Although this may sound useful, in practice Russia's status with the Energy Charter is ambiguous. Russia is a member pending ratification, having signed the Treaty in 1994 but never having ratified it. While this means that Russia has agreed to apply the Treaty's provisions to the extent that they are compatible with Russian law, it is unclear what practical effect the Treaty would exercise over Russia in the event of a serious crisis. During the 2006 dispute between Russia and Ukraine, the Charter avoided a confrontation with Russia by noting that it does not "interfere in negotiations

about pricing or other elements of gas supply arrangements between member countries.”⁵³ Ultimately the Charter’s provisions may be moot. Despite EU pressure, Putin has announced that Russia, while not being “against the principles outlined in the Charter,” does not intend to ratify it in the near future, if at all.⁵⁴

The EU, in the absence of a reliable international agreement to provide energy security, must take unilateral security-promoting measures. In the short- to mid-term, only the Caspian region’s natural gas reserves are positioned to provide an economical alternative to Gazprom supply. Although Caspian reserves are not large enough, nor currently well-developed enough, to replace Russian gas, their direct entrance into western European markets would create a two-fold benefit: an improved diversification of Europe’s natural gas supply and a decline in Gazprom’s market-dominating position.

To achieve the first goal the EU must find a way to unite its 25 members on the necessity of increasing diversity of supply, as well as the necessity to introduce market liberalization in their domestic gas markets. Despite EU efforts, many EU member states have continued to tolerate, or even promote, large incumbents in the gas markets such as Gaz de France, or Germany’s E. On Ruhrgas. These companies have shown a propensity to strike mutually profitable deals with Gazprom designed to continue their market dominance and ensure profitability. Gaz de France’s agreement to allow Gazprom direct access to France’s retail gas market in return for guaranteed gas at favorable terms is a recent example.⁵⁵ Unless the EU can liberalize its own markets and introduce true competition domestically, Gazprom will be able to continue to exploit the EU’s market-based system – by investing directly in EU domestic natural gas

distribution companies, for example – while simultaneously remaining protected from any transparency requirements or market competition in its own backyard. Eventually it will become exceedingly difficult to separate domestic interests from Gazprom interests, which will only serve Russia's interests further.

EU unity is necessary in order to aggressively support the southern route gas pipelines, such as the TGI and Nabucco, to bring them to fruition and keep them outside Gazprom's control. Additionally, the EU will have to provide assistance to exposed member-states such as Greece and the Czech Republic. Greece, for example, has no significant energy reserves other than heavily polluting lignite. Although natural gas currently only provides 5% of Greek domestic energy needs, EU environmental regulations are forcing Greece to move away from coal and expand natural gas use. The Greek Government could not replace the lost energy, or meet its greenhouse gas emissions obligations, if Gazprom's links the renewal of its 2016 supply contract (upon which Greece is 85% reliant for natural gas) with a contract for Russian gas for the TGI. The EU will need to find creative ways to help ensure that Greece can both play a positive role in promoting energy diversity and protect its own national interests.

While promoting diversity of source is critical, bringing true market competition to Europe's natural gas market could well be the more crucial result of freeing Caspian gas from Russian control. Currently Gazprom enjoys tremendous benefits from its sole-purchaser arrangement with Turkmenistan and Kazakhstan. Because neither country can export its gas without transit through Gazprom pipelines, Gazprom effectively dictates the purchase price for Turkmen and Kazakh gas, keeping the price artificially

low. Engaging in what amounts to a gas swap, Russia uses the cheap Turkmen and Kazakh gas to meet its domestic needs in areas close to the Caspian, while shipping gas from its more expensive western gas fields to western Europe. Russia's control of the region is not quite absolute: in 2006, Turkmenistan forced Gazprom to accept a new contract for gas at \$100 per thousand cubic meters, an increase of 54% from its previous price of \$65 per thousand cubic meters.⁵⁶ Nevertheless, at an average sale price to the West of \$230 per thousand cubic meters, Gazprom is enjoying a remarkable rate-of-return on its product.⁵⁷

If the countries of the Caspian region had direct access to markets in western Europe, cutting out the Russian middleman, prices would drop in Europe, but the Caspian countries would earn more as well. In addition Russia would be forced to deal with its own domestic gas demands in a more market-oriented fashion. Currently Russians pay only \$45 per 1,000 cubic meters of gas. Without monopsonistic access to cheap Caspian gas, Gazprom would either be forced to raise prices on gas domestically, or take a significant hit in profitability. In the likely event that Russian gas prices were raised, Russian natural gas consumers would certainly use less gas or raise their energy efficiency, increasing the amount of gas available for export by some 100 bcm annually, putting a severe downward pressure on Gazprom's alleged "world price."⁵⁸

Conclusion

Energy security is a difficult exercise. The natural acts of promoting economic growth and prosperity are the ones most likely to negatively impact energy security.

The EU will become more dependent on imported energy over the next 25 years as it grows, and the burden of meeting its growing energy needs is likely to fall on natural gas. In the short- to medium-term the EU cannot expand renewable energy options or achieve greater energy efficiency on a level that will allow it to move away from fossil fuels, making increased security in access to existing reserves crucial.

Russia is the natural source for the EU's natural gas needs. There are no other alternatives that can meet all of the EU's demand in a reasonable time and at a reasonable price. However, the EU must not blind itself to the fact that Russia has made it clear that its natural gas is a tool to be used in advancing its own national interests. What the EU needs is a counterbalance to Russia's dominance – a leveling of the playing field such that Russia's need to earn export income by supplying the EU with energy matches the EU's need to import that energy.

The best way to do this is to promote diversity of sources and transit, and the best place to start is with the Caspian region. Although the Caspian cannot supply all the EU's demands, opening this natural market provides a twofold benefit: it diversifies Europe's natural gas supply while simultaneously breaking Russia's monopsonistic hold on the Caspian's substantial gas reserves; market competition is introduced simultaneously on both ends.

If the EU begins now, by aggressively supporting a trans-Caspian pipeline as well as any of the southern route pipelines out of the Caspian, it will not find itself immediately free of Russian influence via energy supplies, but it will find itself finally moving in a direction that will shorten the length of time during which Russia can

exercise that influence. To paraphrase Winston Churchill, freeing Caspian natural gas from Russian control and making it directly available to the West will not be the end of Russian gas influence in the EU, nor even the beginning of the end, but it will be, perhaps, the end of the beginning.

Endnotes

¹ Commission of the European Communities, "Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy," (Brussels: March 2006), 3

² "Renewable energy sources" or RES, is a relatively new term used to better describe sources of energy which used to be lumped under the category of "other." Generally these forms of energy are regenerative or inexhaustible, unlike their fossil fuel counterparts, and carry less stigma or waste management concerns than nuclear power. RES include traditional "green energy" sources such as wind, hydro, geothermal, and solar, as well as new alternatives such as liquid biofuels and biomass. For a respectable overview of RES, see Wikipedia's Renewable energy entry, available from <http://en.wikipedia.org/wiki/Renewable_energy>

³ Energy Information Administration, "Country Analysis Brief: European Union," January 2006; available from <http://www.eia.doe.gov/emeu/cabs/European_Union/Energy.html>; accessed 25 March 2007.

⁴ U.S. Department of Energy, Energy Information Administration, "International Energy Outlook 2006," June 2006; available from <http://www.eia.doe.gov/oiaf/ieo/nat_gas.html>; accessed 26 March 2007.

⁵ James P. Dorian, "European Energy Challenges," briefing slides, U.S. Embassy Athens, September 2006

⁶ Jeff Piper, "Towards an EU-Russia Energy Partnership," briefing slides, EU-Russia Energy Dialogue, 2003.

⁷ Council of the European Union, "Presidency Conclusions," (Brussels, 8/9 March 2007), 11-12

⁸ Friedemann Muller, "Energy Security: Demands Imposed on German and European Foreign Policy by a Changed Configuration in the World Energy Market," research paper, Stiftung Wissenschaft und Politik (Berlin, January 2007) 14

⁹ In a 2005 Eurobarometer survey, only 12% of Europeans polled supported an increased use of nuclear power. Alexander's Gas & Oil Connections, New & Trends: Europe, 9 February 2006; available from <http://www.gasandoil.com/goc/news/nte60622.htm>.

¹⁰ This issue came to a head most recently during the March EU leaders summit when France, which derives over 75% of its power from nuclear energy, failed to get nuclear power counted as a renewable for the purposes of an EU decision to set a binding target of 20% energy consumption from RES by 2020. France's position, supported by the UK, was opposed by Germany and Austria in particular, both of which nations have renounced the use of nuclear energy. See, Reuters, "Chirac – EU renewables goal must include nuclear," 8 March 2007; available from <http://www.msnbc.msn.com/id/17520190/>; accessed 24 March 2007.

¹¹ Paul R. Portney, "Nuclear Power: Clean, Costly and Controversial," Resources, Winter 2005, 29.

¹² As an absolute fact, this is true, but as a proposition it is questionable. Direct and hidden subsidies in the energy market as well as transfer costs (generally environmental) all distort the energy market to the point that direct comparisons of cost are exceedingly difficult to make. For partisan discussions of how the current structure of the energy market forms barriers to RES, see Food and Agriculture Organization of the U.N., "Economic Analysis of Wood Energy Systems," 2002; available from <http://www.fao.org/docrep/006/y4327e/Y4327e00.HTM>; American Wind Energy Association, "Comparative Cost of Wind and Other Energy Sources," 2001 Fact sheet; available from <http://www.awea.org/pubs/factsheets/Cost2001.PDF>; or Union of Concerned Scientists, "Barriers to the Use of Renewable Energy Technologies," Background, 1999; available from http://www.ucsusa.org/clean_energy/renewable_energy_basics/barriers-to-renewable-energy-technologies.html

¹³ Like any market, volume plays a significant role in price. For years Japan and Taiwan have consumed three-quarters of the world's demand for LNG (for the obvious reasons that pipelines to either of those nations from natural gas fields is difficult). Few other LNG markets developed. However, as oil and natural gas prices have risen, additional LNG gasification plants are being developed, as well as increases in the number of LNG carriers being produced. These developments have lowered input costs for LNG, making it increasingly competitive even in countries which have access to natural gas pipelines. Nevertheless, LNG remains more expensive per British thermal unit (Btu) than piped natural gas, and its complexity and additional costs will continue to restrict its use to developed nations, putting a limit on the size of its market. For a comprehensive (if somewhat aged) look at the LNG market and predictions, including declining costs, see Department of Energy, Energy Information Administration, "The Global Liquefied Natural Gas Market: Status and Outlook," December 2003; available from <http://www.eia.doe.gov/oiaf/analysispaper/global/index.html>.

¹⁴ Muller, 14

¹⁵ Commission of the European Communities, "An Energy Policy for Europe." (Brussels: January 2007), 4

¹⁶ Muller, 15

¹⁷ Commission of the European Communities, An Energy Policy for Europe, 3

¹⁸ Piper.

¹⁹ In fact, according to Gazprom figures, Russia has 600,000 kilometers of installed natural gas pipeline, of which Gazprom subsidiaries own 463,000 km. Of this, 155,000 km are high-pressure trunk and branches. See "Gazprom in Figures 2001-2005, available from Gazprom's website, <http://www.gazprom.ru/documents/Statistika_Eng_2001-2005.pdf>

²⁰ Piper

²¹ U.S. Department of Energy, Energy Information Administration, "Russia: Natural Gas," Country Analysis Briefs, January 2006; available at <<http://www.eia.doe.gov/emeu/cabs/Russia/NaturalGas.html>>

²² Piper.

²³ In fact, Gazprom has used the Asia card to threaten the EU by suggesting that if the EU did not rein in member-state Poland's vocal criticism of Gazprom's Nord Stream pipeline project as well as Gazprom's policies, or if the EU moved to restrict Gazprom's ability to invest directly in EU domestic natural gas companies, it would instead export its natural gas to China. See, EU business, "Gazprom turns towards Asia as EU problems grow," 28 November 2006; available from <<http://www.eubusiness.com/Energy/061128124037.j7asnl6m>>; accessed March 27, 2007.

²⁴ Andrew Kramer and Steven Myers, "Workers' Paradise is Rebranded Kremlin, Inc.," New York Times, 24 April 2006; available online from <<http://www.nytimes.com/2006/04/24/world/europe/24gazprom.html?ex=1303531200&en=74ccea4f1d88e91&ei=5088&partner=rssnyt&emc=rss&pagewanted=all>>; accessed 26 March 2007.

²⁵ Gazprom Website, *Shares*; available from <<http://www.gazprom.ru/eng/articles/article21713.shtml>>; accessed 22 March 2007.

²⁶ Jason Bush and Anthony Bianco, "Why Russians Love Gazprom," BusinessWeek online, 26 July 2006; available from <http://www.businessweek.com/globalbiz/content/jul2006/gb20060720_774647.htm?chan=top+news_top+news>; accessed 22 March 2007.

²⁷ Kramer and Myers.

²⁸ "After Sakhalin," The Economist, 16 December 2006, 63.

²⁹ Interestingly enough this event took place not only during the coldest part of the winter when demands for natural gas were at their highest, but also during the run up to Ukraine's March Parliamentary elections where Yushchenko needed to consolidate his power base in the face of continued opposition from pro-Moscow parties.

³⁰ Ariel Cohen, "the North European Gas Pipeline Threatens Europe's Energy Security," The Heritage Foundation, 26 October 2006; available from <http://www.heritage.org/Research/Europe/bg1980.cfm#_ftn8>; accessed 22 March 2007.

³¹ Stanley Reed, "This Gas Dispute Could Burn Russia," BusinessWeek online, 3 January 2006; available from <http://www.businessweek.com/bwdaily/dnflash/jan2006/nf2006013_4874_db039.htm>; accessed 22 March 2007.

³² Michael Emerson, "What to do about Gazprom's monopoly power?" Centre For European Policy Studies, 03 February 2006; available from <http://www.ceps.be/Article.php?article_id=509>; accessed 22 March 2007. Little is known about Swiss-based RosUkrEnergo other than it is 50% owned by Gazprom. The other 50% of shares are held through shell companies, the true ownership concealed, but the company is widely believed to be associated with international criminal figures as well as having direct links to President Putin.

³³ Jim Heintz, "Belarus Signs Gas Contract With Gazprom," Associated Press, January 1, 2007. Available from <<http://www.washingtonpost.com/wp-dyn/content/article/2006/12/31/AR2006123100386.html>>. The Russian quid pro quo for keeping the gas flowing was an immediate doubling of gas prices plus annual increases through 2011 to "market prices," as well as the right for Gazprom to purchase 50% of Beltransgaz, the Belarusian pipeline network operator.

³⁴ Associated Press, "Belarus' president says merger with Russia would lead to violence worse than in Chechnya," International Herald Tribune: Europe, 29 September 2006; available from <http://www.ihrt.com/articles/ap/2006/09/29/europe/EU_GEN_Belarus_Russia_Union.php>; accessed 22 March 2007.

³⁵ This evasiveness in defining energy security can reach absurd levels. In a 2006 presentation, Pierre Noel defines energy security as an energy security crisis; that is, energy security as a concept does not exist unless it is viewed as a crisis, by which it is then defined by its crisis state. Although the clear implication from this tautological explanation is that energy security policy creates energy security crises, this does not prevent Mr. Noel from presenting 20 slides worth of policy recommendations on proper U.S. energy security policy. Pierre Noel, "Setting America Free – From Dubious Energy Security Thinking," New America Foundation, 26 October 2006; available from <http://www.newamerica.net/files/PN_EnergySecurity_Final_061026.pdf>; access 23 March 2007.

³⁶ BBC News, "Ukraine 'stealing Europe's gas'," 2 January 2006; available from <<http://news.bbc.co.uk/2/hi/europe/4574630.stm>>; accessed 28 March 2007. Moldova's natural gas supplies were also cut off during this incident when it was unable to make the adjustment from \$64 per 1000 cubic meters of gas to \$160 per 1000 cubic meters fast enough to suit Gazprom.

³⁷ Given that the U.S. is the world's largest importer and consumer of energy, it is somewhat alarming that the 2006 U.S. National Security Strategy relegates energy security to a sub-point of the goal entitled "Ignite a New Era of Global Economic Growth Through Free Markets and Free Trade."

³⁸ Neil MacFarlane, "Transcaucasus and the Caspian Region with Particular Focus on Energy Issues," NATO Economic Colloquium 3-5 November 1999; 220. Available from <<http://www.nato.int/docu/colloq/1999/pdf/219-225.pdf>>. MacFarlane's actual point is more subtle than presented here. In a NATO colloquium designed to spark a dialogue on energy and security in the Caspian/Transcaucasus, the six presenters presented such different papers based on entirely different approaches to energy security that it is difficult to reconcile them under a single heading. Some discuss energy as an engine of economic progress that leads to increased stability (and thus security), while others discuss energy reserves as a destabilizing element sparking regional conflicts. Still others discuss the need for security in getting the energy to market in the face of adverse market conditions. MacFarlane does not dispute the validity of any of these viewpoints, but his point is well made: security is in the eye of the beholder.

³⁹ Muller, 5

⁴⁰ MacFarlane, 220

⁴¹ Jonathan Stern, "Security of European Natural Gas Supplies – The impact of import dependence and liberalization," Royal Institute of International Affairs (London, July 2002), page 6. This is hardly an exhaustive list as Stern himself notes – energy security issues could easily include demand side (energy conservation and technological improvements to energy efficiency); physical security issues (infrastructure protection); energy crisis management; and (particularly in the EU context where national boundaries pose particular difficulties) regulatory efficiencies and internal competition concerns. In fact, Stern's paper is largely directed at the issue of EU liberalization policies and their impact on natural gas supply security. I plead the same defense as Stern, however – no paper could be large enough to provide a true methodological definition of energy security without becoming a book.

⁴² U.S. Department of Energy, Energy Information Administration, "Country Analysis Brief: Caspian Sea," January 2007; available from <http://www.eia.doe.gov/emeu/cabs/Caspian/pdf.pdf>; accessed 22 March 2007

⁴³ Ibid.

⁴⁴ James Dorian, "Central Asia is a Key Emerging Energy Player," Pipeline and Gas Journal, May 2006; 59

⁴⁵ Keith C. Smith, "Security Implications of Russian Energy Policies," Policy Brief, Centre for European Policy Studies, January 2006; 4

⁴⁶ Daniel Fink, "Assessing Turkey's Future As an Energy Transit Country," Research Notes, Washington Institute for Near East Policy, July 2006, 2

⁴⁷ Carl Mortished, "Greece and Italy push gas pipeline," The Times, 3 February 2007.

⁴⁸ Kerin Hope, "Russia to Discuss Gazprom role in New Greek-Turkish Pipeline," Financial Times, 6 February 2006.

⁴⁹ "Nabucco loses its plot," Petroleum Economist, 20 November 2006.

⁵⁰ Judy Dempsey, "Hungary Chooses Gazprom over EU," International Herald Tribune: Europe, 12 March 2007; available from <http://www.iht.com/articles/2007/03/12/news/hungary.php?page=1>; accessed on 28 March 2007.

⁵¹ Although the BTC was initially discussed primarily with Azerbaijan as an outlet for Azeri oil, the market did not see sufficient reserves in that country to justify the construction. Nevertheless, the U.S. pushed sufficiently hard for geo-strategic reasons that the project moved ahead even before Kazakhstan, with its considerably larger oil reserves, agreed to participate. Now the BTC, once felt to be a commercially unviable pipedream, is now supplying light, sweet crude to the international market, with Azeri and Kazakh participation. For a full discussion, see Oxford Analytica, "Azerbaijan: BTC pipeline hails political triumph," OxResearch: Oxford, 13 June 2006.

⁵² For more on the Energy Charter Treaty see About the Charter, Energy Charter Organization at <<http://www.encharter.org>>; accessed 28 March 2007.

⁵³ Energy Charter Organization, FAQ, available from <<http://www.encharter.org/index.php?id=18&L=0>>; accessed 28 March 2007.

⁵⁴ Dan Bilefsky, "Putin rejects EU demands that Russia ratify energy charter," International Herald Tribune: Europe, 20 October 2006; available from <<http://www.ihf.com/articles/2006/10/20/news/eu.php>>; accessed 27 March 2007. For some specific, if somewhat specious, Russian complaints regarding the Energy Charter, see Stefan Wagstyl, "Putin on Russia's Oil Dependence, Foreign Affairs, and Religion," Financial Times, 12 September 2006; available from <<http://www.mosnews.com/interview/2006/09/12/putin.shtml>>; accessed on 27 March 2007.

⁵⁵ International Business Times, "Gazprom, Gaz de France Sign Contract," 19 December 2006; available from <<http://www.ibtimes.com/articles/20061219/russia-gazprom-gaz-de-france.htm>>; accessed April 15, 2007.

⁵⁶ Helen Marshall, "Gazprom agrees to Turkmen price rise deal," Energy Business Review online, 6 September 2006, available from <http://www.energy-business-review.com/article_news.asp?guid=F2D4D12F-4D07-4475-9061-57970B5546EA>; accessed 22 March 2007. Of course, much of Turkmenistan's willingness to scrap with Moscow came directly from the top; now that former President Niyazov is dead it is unclear how Turkmenistan will manage its relationship with the Kremlin. It is unlikely that Niyazov's successor will also inherit the remarkable ability to retain control of the country even in the face of a 7-year complete shutdown of the only money-earning sector of the Turkmen economy as Niyazov did from 1992 to 1999. In that dispute with Moscow, Turkmen gas production fell by 75%.

⁵⁷ Roman Kupchinsky, "Russia: The Fight for the Gas Pipelines," Radio Free Europe/ Radio Liberty, 14 June 2006; available at <<http://www.rferl.org/featuresarticle/2006/06/4F4967A8-D804-4661-91D9-6C121E283C49.html>>; accessed 22 March 2007.

⁵⁸ Reuters, "Russia approves plan to double domestic natural gas prices," International Herald Tribune: Business, 30 November 2006; available from <<http://www.ihf.com/articles/2006/11/30/business/rusgas.php>>; accessed on 27 March 2007. Note that the title of this article is somewhat misleading – the price doubling will not go into affect until 2011 for businesses and 2017 for individual consumers.

